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LATE EXCISION OF THE HIP

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LATE EXCISION OF THE HIP.[1]

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An article dealing with excision of the hip need no longer begin by a comparison of the merits of excision and conservatism as routine methods of treatment. Whatever the sentiment of the surgical world may have been ten or fifteen years ago, it is now generally admitted that on the whole, conservatism is preferable to operative measures. This view is supported by the weight of surgical opinion in America, in England, in Belgium and France and even in Germany. Certain radical surgeons who regard tuberculosis as a malignant affection still advise early and radical measures whenever a tuberculous focus appears in a hip-joint and especially if suppuration occurs[2] (Bradley, Steiner, Cazin, Daniel, Molliere, Wright, Barker).

But if there is agreement as to the advisability of conservatism on general grounds, there are often many differences of opinion expressed as to the time when conservative should yield to operative measures. The opinion of the surgical world in this regard is of interest.

In France, Ollier[3] seems to dictate surgical opinion in this matter. He writes: "Abscesses are opened; but if they recur, if they are accompanied by phenomena of absorption, if the hip remains painful and

[1] Read before the American Orthopedic Association, at Washington, D. C., May 7, 1897.
[2] Gangolphe: Maladies infect. et parasit. des Os, 1894, p. 332.
[3] Ollier: Resections des Grands Articulations, Paris, 1895.

does not tend to anchylosis, if the acetabulum is diseased, resection is formally indicated."

One may assume that Vincent, of Lyons,[4] is a fair exponent of this policy, to which he agrees in his writing; and it is interesting to note that in 233 cases of hip disease treated at the Charité Hospital, where this policy was followed, 52 were resected, being at the rate of 22.3 per cent. of all cases. At the Children's Hospital, Boston, in 1,100 cases, 50 were resected, being at the rate of 4.5 per cent. This comparison seems to indicate that French conservatism is about five times as operative as is American conservatism.

Menard[5] probably represents French opinion in general, in stating that, "Resection ought not to be reserved for desperate cases; if one wishes to obtain good results the operation must be done in time."

Again, Lambotte,[6] another recent French writer, says of excision, "we are of the opinion that as soon as pus exists in the capsule the best way of rapidly curing the patient is to resect without delay."

Nor can French results from operation be adjudged as altogether satisfactory, when Ollier teaches that the most desirable result after resection is complete anchylosis, and Montoz[7] would nail the femur to the acetabulum after operation to obtain this. Yet one must remember, French conservatism expects very little; for Vincent writes, "It is anchylosis in good position (without resorting to resection) that we pursue as the ideal of a cure in coxalgia."

In Germany the tide sets strongly in favor of conservatism. As Jalaguier[8] has put it somewhat graphically: "The Volkmanns, the Leisrinks and the Koenigs, who

[4] Congrès de Chir. Proc. verbale, 481.
[5] Coxalgie Tuberculeuse, Paris.
[6] Journ. de Med. et de Chir. Annales, iv, 3, 261.
[7] Congrès Fr. de. Chir., 1895, ix, 153.
[8] Jalaguier: Thèse d'Ag., Paris, 1886.

were resection mad (*atteints de résécomanie*), are now reacting, and are defending conservative operations."

Sasse[9] believes that conservative measures can be followed in 75 to 80 per cent. of all cases (leaving 20 to 25 per cent. of cases for excision), an estimate practically the same as Vincent's.

Bruns,[10] reviewing forty years' work at the Tübingen clinic, found 600 cases which he reduced to 390 cases of authenticated hip disease; and of these, 69 were resected, making about 18 per cent., a proportion not far from those of the other Continental surgeons just mentioned.

Schede, Helferich, Gussenbauer, Von Bergmann and others at the German Surgical Congress in 1894, advocated conservative as contrasted with operative measures.[11]

English opinion is of two sorts: one, represented by the enthusiastic advocates of early excision, one of whom[12] would remove the head of the bone "as soon as it is suspected that caseation is advancing in it," while another asserts that "treatment short of excision, when once suppuration occurs, is useful only as a palliative or means of temporizing."[13] The other point of view, the more conservative, is represented by Mr. Watson Cheyne.[14] He would advocate excision, as follows: "(1) Where the disease is progressing rapidly, where tenderness does not subside under treatment, where the fulness in the groin increases, where starting at night continues and where the shortening rapidly extends"; (2) where primary acetabular disease is present; (3) where true dislocation has occurred.

In the United States conservative measures (for the

[9] Archiv. f. klin. Chir., xxiv, 4, 719.
[10] Cent. f. Chir., 1894–96.
[11] Loc. cit., 1894.
[12] Barker: British Medical Journal, June 9, 1888.
[13] G. A. Wright: Hip Disease in Childhood.
[14] Tuberculous Disease of Bones and Joints, 1895, p. 239.

most part in the form of ambulatory treatment by a splint affording protection and traction) are persisted in, on the whole, longer than in Europe. When conservative measures fail to give relief the propriety of excision is considered; but opinion differs widely as to the indications for its performance. Some ultra-conservatives believe that excision is practically never called for, and would treat the most advanced cases to the end by traction and fixation. In general, however, American surgical opinion favors what is known as late excision.

The practical question is this,[15] Is excision of the hip a satisfactory operation done late; when traction and fixation have failed? There is no question of the utility and generally satisfactory results of a fairly early excision of the hip, as shown by a large mass of statistics. The results may perhaps be inferior to a similar series of cases treated by the best conservative means, but many useful legs result, and the mortality percentage is low after the operation. The present paper is wholly directed toward the question of excision of the hip done after conservative measures faithfully tried have failed — one might almost say, excision of the hip done as a last resort.

At the Children's Hospital, Boston, the attitude toward excision of the hip has remained practically unchanged for eighteen years. From 1878 to 1895 inclusive, some 1,100 cases of hip disease have come to the hospital for treatment, and 50 cases have been excised. Conservative treatment at this hospital, as a rule, has consisted of protection, partial fixation, and traction to the joint. In general this is applied by means of the long traction-splint in connection with crutches and a high sole on the well foot. Activity is restricted to certain hours, but ambulatory treatment

[15] Journal American Medical Association, July 7, 1894.

is preferred to recumbency where possible. Confinement to bed is ordered for patients with sensitive joints, deformity or abscess. Abscesses are opened as they occur. The general condition of the patient is cared for by general hygienic measures and a convalescent house in the country is available.

The indications for abandoning conservative measures for operation, as accepted at this hospital, have been in general as follows:

(*a*) Persistent failure of the general health.

(*b*) A progressive destructive process in the joint, which continues in spite of favorable therapeutic conditions. This is made evident by much induration and multiple indolent sinuses through which the products of the disintegration drain rapidly away.

(*c*) The persistence of severe pain and excessive tenderness late in the disease, which are not affected by efficient traction and fixation.

(*d*) Formation of extensive sequestra in the joint.

The object of the following analysis is not primarily to investigate and tabulate the mortality (this has been done again and again in other series of cases), but incidentally to note the mortality, and really to study the condition of the cases in which this operation was done, and especially to note the character of the end-results in those cases where it can be ascertained.

The first case on the list was operated on in 1877, the last case in October, 1895. Of the whole 50 cases, only eight have been operated on since 1892, so that in the majority of all cases an interval of three or four years at least has elapsed between operation and the time of writing.

The incision in use has been generally one of the posterior ones. Traction on a bed-frame was generally used for some weeks after operation, and a protection-

splint for the joint has been required for months, and oftener for years, after operation.

The group consists of 50 cases.

Mortality of the 50 cases. Nineteen are known to be dead, and three others were doing so poorly six months after operation that they undoubtedly died — a known mortality-rate of nearly 50 per cent. It is of interest in this connection that Schmidt (quoted by Laurent) found in 116 resected hips that after two and one-half years from operation only four per cent. died of tuberculosis; and after this period he considerd them practically safe.

Of the 19 fatal cases, four died within a week after operation, probably of shock and exhaustion; seven died in the year after operation of generalized tuberculosis for the most part; four others died from two to six years after operation; and in the other cases it is simply known that the patients died. One or two had amyloid degeneration of the viscera; one or two died from causes apparently not connected with the disease; but in most cases the cause of death was either generalization of the tuberculosis, or exhaustion, obviously due to the long drain on the system.

It does not seem likely that a closer analysis of the fatal cases would add anything to the figures on the subject or be of especial value.

The practical value of such an investigation should lie chiefly in the definition of the class of cases operated on and the character of results obtained.

The age of the patients at the time of operation was as follows:

Two years	2
Three years	1
Four years	6
Five years	4
Six years	9
Seven years	6

Eight years	6
Nine years	2
Ten years	6
Eleven years	3
Twelve years	3
Not stated	2

The duration of the disease at the time of operation, as estimated from the statements given by the parents, would be of little value and would make the time too short in most cases. The duration of several cases in the group is, however, striking:

Four had lasted	3 years at least.
One had lasted	4 years at least.
Two had lasted	5 years at least.
One had lasted	6 years at least.
One had lasted	8 years at least.
One had lasted	9 years at least.

Although it is not possible to formulate it satisfactorily, it may be said that the cases ultimately coming to operation for the most part did not receive proper attention at home, and were irregular in attendance at the clinic. They were, as a rule, neglected cases. Some had never been under treatment anywhere when admitted to the wards for operation.

The symptoms most prominent in the late history of cases coming to operation were excessive pain and sensitiveness, much porky induration about the hip and profuse discharge from the sinuses.

The condition of the joint at the time of operation was of much interest, as showing how severe and extensive was the disease for which these operations were done; and a consideration of them is of especial value in showing that in the more severe and extensively diseased cases a favorable outcome is not impossible.

In the 50 operations, the great trochanter was removed 47 times, along with the head and neck. This was necessitated by the extent of the disease. Three times only was the section made between the trochan-

ter and head. Eight times it was noted that the shaft of the femur was more or less extensively diseased. Where the shaft of the femur was noted as extensively diseased, the patient generally died, but one case did well where the bone was removed (in a girl of ten) two inches below the lesser trochanter.

The condition of the acetabulum was of much interest, and especially so because, so far as one may judge from these cases, perforation of the cavity was not necessarily the accompaniment of the gravest cases. The condition of the acetabulum was not noted in 12 cases; three times it was noted as normal or nearly so; two times it was noted as diseased or as containing sequestra; fifteen times perforation had occurred. Supposing that the later condition was one of much gravity, the writer analyzed these cases as to the outcome. Of the 15, three are dead and one likely to die; five are in good condition, as reported below; and one was doing well one year after operation. In five the present condition is not known. This is not far from the rates of mortality in the whole group of cases.

Finally, of the 50 cases, 19 are dead; of the remaining 31, three were doing poorly when last heard from (six months after operation) and probably died. Others were heard from as doing well, as follows:

One	. . . .	4 months after operation.
Five	. . . .	6–8 months after operation.
One	. . . .	9 months after operation.
One	. . . .	10 months after operation.
Two	. . . .	12 months after operation.
One	. . . .	18 months after operation.
One	. . . .	24 months after operation.

Nothing can be said of the present condition of these patients. They could not be traced.

The interest lies chiefly in the remainder, the cases where the present condition is known.

The detailed notes are as follows, the condition be-

fore operation being printed in small type after each case.

CASE 42. The leg was amputated for osteo-myelitis of the femur persisting after excision. The boy is well. The stump is healed and he is a bicycle rider. Fourteen years since operation.

Discharge profuse. Many sinuses. Patient steadily losing.

CASE 9. A bad result as to shortening, position, etc., probably due to removal from hospital against advice. Anchylosis in abduction, eversion and flexion. Shortening of about six inches. Slight lateral curvature beginning. Eleven years since operation.

Many sinuses. Leg and thigh swollen and edematous. Temperature 104°. Parents delayed consent to operation one month.

CASE 19. Seven years and a half since operation. Sinuses healed. Motion of 80° in flexion and a few degrees in abduction. Can stand on operated leg. Uses crutches still, but advised to discontinue them.

Hip and knee on same side diseased. Thickening of trochanter. No abscess. Pain persistent and uncontrollable. Operation chiefly for painful condition.

CASE 23. Six years since operation. Wears no splint, and walks on affected leg without trouble. Motion in flexion 25°, abduction 30°, rotation 35° Shortening of four inches.

Drunken mother and neglect at home. Abscesses and sinuses. Much thickening about joint. Flexion and abduction. Deformity of leg. Temperature 102°. General condition wretched. The operation was performed at two separate times, the patient being too weak to stand it all at once.

CASE 25. Six years since operation. Health good. No crutches for three years. Sinuses healed one year after operation. One inch shortening.

Neglect at home. Leg flexed and adducted. Much spasm and pain. No motion in joint.

CASE 26. Five and one-half years since operation. Walks well without crutches. No splint for a year.

CASE 31.

Sinuses healed for two years or more. Shortening one inch. General health good, and endurance is as good as the average.

Disease had existed nearly two years. No motion in hip. Much swelling and very painful. General condition failing.

CASE 31. Five years since operation. Shortening five and one-half inches. Motion in flexion 60° in rotation and abduction a few degrees. Can bear whole weight on operated leg. General condition excellent. Sinuses healed.

An old, untreated case. Condition very bad. Diagnosis of rheumatism had been made some months before outside of hospital and no apparatus used. Thigh flexed to 100°, sinuses and very painful.

CASE 33. Five years since operation. Shortening one and three-quarters inches. General health excellent. Walks without cane or crutch. Wearing a protection-splint. Motion in flexion 40°, a few degrees of motion in rotation and abduction.

Treated for once a year. Leg splint. Abscesses opened, etc. Condition gradually getting worse. Sinuses. Much swelling about hip. Tenderness and pain.

CASE 36. Four and one-half years since operation. Condition excellent. Can walk without splint or crutches. Sinuses healed. Motion in flexion 65°, in abduction and rotation half of normal. Shortening one inch.

Under treatment three and one-half years. Abscesses had been opened and sinuses persisted. There was much thickening and little or no motion in joint.

CASE 39. Four years since operation. Can walk without splint. Shortening of two inches. Motion in flexion 45°, abduction normal. Condition good.

Much hectic. Hip very sensitive. Thigh and hip extensively swollen and indurated. Hip held in flexed position.

CASE 42. One year since operation. General condition good. Shortening about three inches. Motion of 40° in flexion, and a few degrees of abduction. One sinus still open. Using a traction-splint.

Flexion deformity and no motion in hip. Trochanter one and one-half inches above Nélaton's line. Old sinuses open.

CASE 43. One year since operation. General condition excellent. Shortening one inch. Sinuses open. Can bear whole weight on operated leg. Motion in flexion to 65°, rotation normal.

Swelling so great that a large firm tumor occupied the upper thigh, dense and tender. Five sinuses reaching one-third of the way down the thigh. No motion in joint.

CASE 44. One year since operation. Sinuses healed. Shortening two and one-half inches. Condition excellent. Can stand and walk on operated leg. Motion in flexion to 45°, rotation and abduction nearly normal.

Hip flexed to right angle. Very sensitive. Much thickening about trochanter. Sinuses discharging profusely.

CASE 45. Fifteen months since operation. General condition excellent. It was so bad at the time of operation that she was too weak to sit up. Sinuses are opening. Shortening one and three-fourths inches. Motion to 45° in flexion, rotation one-half of normal.

Hip very sensitive and flexed and abducted. No motion. Temperature 102°. Not gaining in general condition.

CASE 46. One year after operation. Very sick at home. Destructive process has continued in spite of excision. Exhaustion from profuse destructive suppuration is bringing about a fatal issue.

No motion. Hip very painful. Much edema and swelling. Sinuses. Poor general condition. Consent to operation delayed by parents.

CASE 50. Acetabulum perforated. Boue removed for an inch below trochanter. Condition five years after operation: Motion apparently perfect except in ab-

CASE 50.

duction. No apparatus used. Sinuses healed. No pain. Patient walks without apparatus. Length of right leg, 25 in.; length of left leg, 27½ in.; cir-

cumference of right thigh, 15 in.; left thigh, 13 in.; circumference of right calf, 9¼ in.; left calf, 11¼ in. Leg can be fully extended and flexed.

Hip very sensitive, grating on motion. Several discharging sinuses. Much swelling. Failure in general condition.

These cases require no comment. They are all the cases which could be traced; and in many of them time enough since operation has elapsed to warrant the consideration of them as ultimate results. As an advocate of the use of fixation and traction in all cases to the latest possible moment, the writer hopes that a consideration of these cases may lead to the conclusion that late excision often produces excellent results.

The writer is indebted to his hospital associates for permission to publish their cases.